REMARKS

Claims 1-22 were presented for examination. Claims 1-22 were rejected. Applicants are hereby amending claims 1, 4, 11, 15 and 22. Support for all amendments is found in the specification as originally filed. Reconsideration of this application as amended, and allowance of all pending claims are hereby respectfully requested.

Rejection under 35 U.S.C. § 102

Claims 1-22 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,487,671 (Shpiro et al.). Applicants respectfully request reconsideration and allowance of the claims in view of the following amendments and arguments. For at least the reasons stated below, Shpiro et al. do not disclose or suggest each of the claim elements, as amended.

The present invention, as recited in amended claim 1 for example, relates to foreign language learning techniques. A word separation means separates sentence speech information received from learner into word speech information using model phoneme array information (described, e.g., at pg. 10 of the present specification). A likelihood determination means compares the word speech information with model speech, and a display output means provides a comparison result for each word.

Shpiro et al. disclose a speech training system that is based on a library of reference audio specimens. A particular reference audio specimen can be a phoneme, word or phrase. Shpiro et al. also disclose that the system includes a segmentation unit 260 that can separate a student's speech into a plurality of portions, such as phonemes. A parameter comparison unit 280 is provided to compare the student's speech with the reference audio specimens.

In the statement of the rejection, the Office Action is apparently taking a position that phonemes and words are analogous in the present context. Applicants respectfully disagree with this contention. One advantage of the present invention is that efficacy of learning a foreign language can be enhanced by providing word-based feedback to the student. As shown in FIG. 1, Shpiro et al. describe a phoneme-based scoring technique.

Shpiro et al. do not disclose or suggest the use of "model phoneme array information" as recited in amended claim 1 to recognize the speech information on the basis of each word. In contrast, Shpiro et al. disclose that the segmentation unit 260 can parse the student's speech information into phonemes for phoneme-based scoring. However, Shpiro et al. do not disclose or suggest the use of model phoneme information to relate one or more phonemes spoken by the student into appropriate word-based boundaries as claimed. Similarly, independent claims 4, 15 and 22 also require the use of model phoneme array information to separate the learner's speech to word-based boundaries.

Regarding independent claim 11, Shpiro et al. do not disclose or suggest evaluating the degree of matching the learner's speech with the model speech using "a likelihood distribution plane" as recited in amended claim 11. As shown in FIG. 5, for example, of the present specification, the claimed invention uses a likelihood distribution plane to evaluate how well the student's speech matches an optimum pronunciation. Shpiro et al. appear to use conventional correlation methods (see, col. 5, lines 17-19).

Because Shpiro et al. fail to disclose each and every element of the claimed invention, it cannot anticipate independent claims 1, 4, 11, 15 and 22 as amended as well as claims 2-3, 5-10, 11-14 and 16-21 which depend therefrom. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Conclusion

Accordingly, it is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call the Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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